

**UNCLASSIFIED**

**EXHIBIT R-2, FY 2000 RDT&E,N PRESIDENT'S BUDGET ITEM JUSTIFICATION SHEET**

**DATE: February 1999**

**BUDGET ACTIVITY: 7**

**PROGRAM ELEMENT: 0204152N**

**PROGRAM ELEMENT TITLE: E-2 SQUADRONS**

**(U) COST: (Dollars in Thousands)**

	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To</u>	<u>Total</u>
<u>Project Number &amp; Title</u>	<u>Budget</u>	<u>Budget</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	<u>Program</u>
E0463 - (E-2C Improvements)	36,985	9,783	4,048	6,544	6,570	6,805	6,999	7,174	continued	continued
E2321 - (E-2 Radar Modernization)	21,318	36,839	12,084	6,397	6,846	0	0	0	0	83,484
<b>TOTAL</b>	<b>58,303</b>	<b>46,622</b>	<b>16,132</b>	<b>12,941</b>	<b>13,416</b>	<b>6,805</b>	<b>6,999</b>	<b>7,174</b>	<b>continued</b>	<b>continued</b>
<b>Quantity of RDT&amp;E Articles</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

(U)A. **MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: E-2C Improvements** provides pre-planned product improvements for the evolution of E-2C airborne weapon system capabilities in support of naval warfare command and control requirements. It has previously funded developments for the modification/replacement of selected weapon replaceable assemblies of current installed subsystems. This has resulted in a new baseline capability configuration referred to as Group II aircraft. The program has developed a Mission Computer Upgrade (MCU), applying on-going developments in data processing and target detection, which will relieve current bottlenecks in signal and data processing. The MCU will permit incorporation of additional functional capabilities to satisfy evolving operational requirements, e.g., Cooperative Engagement Capability (CEC), Satellite Communications (SATCOM), and permits the evolutionary growth of a Cruise Missile Defense (CMD) capability. The test article in FY98 is an MCU Engineering Manufacturing Development (EMD) Unit.

FY00-05: Technology insertion of new emergent systems and subsystems. This initiative allows for data collection and the evaluation of new technologies in the context of emerging missions and requirements including Cruise Missile Defense, Ballistic Missile Defense, littoral warfare, combat identification, and Single Integrated Air Picture as well as parts and systems obsolescence. Emphasis will be upon the following areas: participation in exercises to assess capabilities against emerging threats; identify deficiencies; identification of candidate solutions; and ground/airborne demonstrations of the identified technologies.

**The Radar Modernization Program (RMP)** is a Non-Acquisition Advanced Technology Transition Demonstration (ATTD). It initiates the application of new radar technologies which can be common to both seabased and landbased airborne early warning platforms, E-2C and E-3, to provide a definitive littoral Theater Air Missile Defense (TAMD) capability. Focused technologies developed in association with the RMP will be cost shared by the Navy and Air Force. Funding shown in the RMP includes the Navy cost share. Key technologies to be applied are Space-Time Adaptive Processing, an electronically scanable radar antenna with multi-channel rotary coupler, a solid state radar transmitter, and high dynamic range digital receivers. The resulting detection system will specifically provide an improved overland capability for TAMD, advanced auto detect and track, a single beam cue to a shooter, Non-Cooperative Target Recognition classification technologies, and continue to enhance E-2C CEC capabilities. These technologies and resultant equipment, demonstrated in ground environment in FY 1997, will also demonstrate in FY 1999, and be flight tested in FY 2001 and FY 2002 leading to an engineering change proposal (ECP) anticipated to start in 2003 for introduction into fleet aircraft.

(U) **JUSTIFICATION FOR BUDGET ACTIVITY:** This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing operational systems.

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EXHIBIT R-2a, FY 2000 RDT&E,N PRESIDENT'S BUDGET PROJECT JUSTIFICATION SHEET

DATE: February 1999

BUDGET ACTIVITY: 7

PROGRAM ELEMENT: 0204152N

PROJECT NUMBER: E0463

PROGRAM ELEMENT TITLE: E-2 Squadrons

PROJECT TITLE: E-2C Improvements

(U) COST: (Dollars in Thousands)

<u>Project Number &amp; Title</u>	<u>FY 1998 Budget</u>	<u>FY 1999 Budget</u>	<u>FY 2000 Estimate</u>	<u>FY 2001 Estimate</u>	<u>FY 2002 Estimate</u>	<u>FY 2003 Estimate</u>	<u>FY 2004 Estimate</u>	<u>FY 2005 Estimate</u>	<u>To Complete</u>	<u>Total Program</u>
E0463 - (E-2C Improvements)	36,985	9,783	4,048	6,544	6,570	6,805	6,999	7,174	continued	continued

Quantity of RDT&E Articles 1

(U) A. **MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:** E-2C Improvements provides pre-planned product improvements for the evolution of E-2C airborne weapon system capabilities in support of naval warfare command and control requirements. It has previously funded developments for the modification/replacement of selected weapon replaceable assemblies of current installed subsystems. This has resulted in a new baseline capability configuration referred to as Group II aircraft. The program has developed a Mission Computer Upgrade (MCU), applying on-going developments in data processing and target detection, which will relieve current bottlenecks in signal and data processing. The MCU will permit incorporation of additional functional capabilities to satisfy evolving operational requirements, e.g., Cooperative Engagement Capability (CEC), Satellite Communications (SATCOM), and permits the evolutionary growth of a Cruise Missile Defense (CMD) capability. The test article in FY98 is an MCU Engineering Manufacturing Development (EMD) Unit.

FY00-05: Technology insertion of new emergent systems and subsystems. This initiative allows for data collection and the evaluation of new technologies in the context of emerging missions and requirements including Cruise Missile Defense, Ballistic Missile Defense, littoral warfare, combat identification, and Single Integrated Air Picture as well as parts and systems obsolescence. Emphasis will be upon the following areas: participation in exercises to assess capabilities against emerging threats; identify deficiencies; identification of candidate solutions; and ground/airborne demonstrations of the identified technologies.

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**EXHIBIT R-2a, FY 2000 RDT&E,N PRESIDENT'S BUDGET PROJECT JUSTIFICATION SHEET**

**DATE: February 1999**

**BUDGET ACTIVITY: 7**

**PROGRAM ELEMENT: 0204152N**

**PROJECT NUMBER: E0463**

**PROGRAM ELEMENT TITLE: E-2 SQUADRONS**

**PROJECT TITLE: E-2C IMPROVEMENTS**

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. FY 1998 ACCOMPLISHMENTS:

1

- (U) \$7,350k - Conducted DT/OT IIB
- (U) \$5,192k - Completed CEC software interface
- (U) \$5,568k - Completed Software System test for Build 1. Initiated Build 2.
- (U) \$14,481k - Completed DT/OT-IIC Formal Qualification Testing.
- (U) \$1,025k - Conducted Test Readiness Review for FY99 Technical Evaluation/Operational Evaluation (TECHEVAL/OPEVAL)
- (U) \$3,369k - Completed test aircraft modifications.

2. FY 1999 PLAN:

- (U) \$3,561k - Complete software system test for Build 2.
- (U) \$432k - Conduct Production Readiness Review.
- (U) \$5,715k - Conduct MCU TECHEVAL/OPEVAL.
- (U) \$75k – Portion of extramural program reserved for Small Business Innovation Research assessment in accordance with 15 USC 638.

3. FY 2000 PLAN:

- (U) \$4,048k – Collect sensor data. Down select technologies for demonstration. Perform demonstration of selected systems.

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**DATE: February 1999**

**BUDGET ACTIVITY: 7**

**PROGRAM ELEMENT: 0204152N**

**PROJECT NUMBER: E0463**

**PROGRAM ELEMENT TITLE: E-2 SQUADRON**

**PROJECT TITLE: E-2C IMPROVEMENTS**

**(U) B. PROGRAM CHANGE SUMMARY**

	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>
(U) FY 1999 President's Budget:	37,974	10,439	4,121
(U) Appropriated Value:	39,380	10,439	
(U) Adjustments from 1999 Pres Budget:	-989	-656	-73
(U) FY2000 PRES Budget Submit:	36,985	9,783	4,048

**CHANGE SUMMARY EXPLANATION:**

(U) Funding –

FY1998 decrease reflects a Small Business Innovation Research reduction of \$1,589k & a Below Threshold Reprogramming increase of \$600k.

FY1999 decrease reflects a \$24k reduction for Revised Economic Assumption, a \$15k reduction for minor pricing adjustments, and a \$617k reduction for CAAS.

FY2000 decrease reflects a -\$73k reduction for minor pricing adjustments.

(U) Schedule – Not Applicable.

(U) Technical – Not Applicable.

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**EXHIBIT R-2a, FY 2000 RDT&E,N PRESIDENT'S BUDGET PROJECT JUSTIFICATION SHEET**

**DATE: February 1999**

**BUDGET ACTIVITY: 7**

**PROGRAM ELEMENT: 0204152N**

**PROJECT NUMBER: E0463**

**PROGRAM ELEMENT TITLE: E-2C SQUADRONS**

**PROJECT TITLE: E-2C IMPROVEMENTS**

**(U) C. OTHER PROGRAM FUNDING SUMMARY**

<u>Appn</u>	<u>FY 1998 Budget</u>	<u>FY 1999 Budget</u>	<u>FY 2000 Estimate</u>	<u>FY 2001 Estimate</u>	<u>FY 2002 Estimate</u>	<u>FY 2003 Estimate</u>	<u>FY 2004 Estimate</u>	<u>FY 2005 Estimate</u>	<u>To Complete</u>
APN 1/E-2C (LI #10 & 11)	311,569	397,278	383,016	315,917	260,991	211,730	0	0	0
APN 5/E-2C (LI #33)	44,005	83,563	28,201	26,907	14,802	2,878	65,638	65,502	0
APN 6/E-2C (LI #46)	6,017	16,978	12,497	4,968	7,617	10,114	0	0	0

Related RDT&E

(U) 0603658N (Ship Self Defense, Cooperative Engagement)

(U) C. ACQUISITION STRATEGY: Work will be led in-house. Necessary contractor support will be acquired in conjunction with already existing contracts.

**(U) D. SCHEDULE PROFILE**

	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>TO COMPLETE</u>
(U) Program Milestones			1Q MCU OPEVAL 3Q MCU MSIII	
(U) Engineering Milestones				
(U) T&E Milestones	2Q/3Q MCU Qual Tests 3Q MCU DT/OT-IIB	2Q MCU DT/OT-IIB 4Q MCU DT/OT-IIC 4Q MCU TECHEVAL	Ground Demo 2Q MCU FRP	
(U) Contract Milestones				

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## EXHIBIT R-3, FY 2000 RDT&amp;E,N COST ANALYSIS

BUDGET ACTIVITY: 7

PROGRAM ELEMENT: 0204152N

PROJECT NUMBER: E0463

PROJECT TITLE: E-2C IMPROVEMENTS

<u>Cost Categories:</u>	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total Prior Yrs Cost</u>	<u>FY 1999 Cost</u>	<u>FY 1999 Award Date</u>	<u>FY 2000 Cost</u>	<u>FY 2000 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
<u>PRODUCT DEVELOPMENT</u>										
Hardware/Software Develop. – MCU	SS/CPIF	GAC, NY/FL	149,351	5,715	12/98	0		0	155,066	155,066
Hardware/Software Develop. - CEC/MCU	SS/CPFF	GAC, NY/FL	12,194	0		0		0	12,194	12,194
Hardware/Software Develop. – MCU	SS/CPFF	GAC, NY/FL	13,898	0		0		0	13,898	13,898
Hardware/Software Develop. Misc.- MCU	SS/CPFF	GAC, NY/FL	1,021	0		0		0	1,021	1,021
Hardware/Software Dev.-Prior Yr. Efforts		GAC, NY/FL	<u>254,800</u>	<u>0</u>		<u>0</u>		<u>0</u>	<u>254,800</u>	254,800
<b>Subtotal Product Development</b>			431,264	5,715		0		0	436,979	
<u>SUPPORT</u>										
Government Eng Support - MCU	WX/RC	NAWCAD PAX, MD	9,103	50	10/98	0		0	9,153	
Gov't Eng Support – Prior Yr. Efforts	WX/RC	NAWCAD PAX, MD	58,800	0		0		0	58,800	
Government Eng Support (Air 4.2) –MCU	WX	NAWCAD PAX, MD	<u>247</u>	<u>150</u>	10/98	<u>0</u>		<u>0</u>	<u>397</u>	
<b>Subtotal Support</b>			68,150	200		0		0	68,350	

GAC = GRUMMAN AEROSPACE CORPORATION

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## EXHIBIT R-3, FY 2000 RDT&amp;E,N COST ANALYSIS

BUDGET ACTIVITY: 7

PROGRAM ELEMENT: 0204152N

PROJECT NUMBER: E0463

PROJECT TITLE: E-2C IMPROVEMENTS

<u>Cost Categories:</u>	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total Prior Yrs Cost</u>	<u>FY 1999 Cost</u>	<u>FY 1999 Award Date</u>	<u>FY 2000 Cost</u>	<u>FY 2000 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
<u>TEST &amp; EVALUATION</u>										
Test & Evaluation – MCU	WX/RC	NAWCAD PAX	25,343	1,528	10/98	0		0	26,871	
Test & Evaluation – MCU	WX	NAWCAD PAX	10,270	2,215	10/98	0		0	12,485	
Test & Evaluation - (Prior Yr. Effort)	WX	NAWCAD PAX	39,200	0		0		0	39,200	
Test & Evaluation – MCU	WX	PMRF, HAWAII	1,500	0		0		0	1,500	
Miscellaneous – MCU	MIPR	VARIOUS	670	0		0		0	670	
Test & Evaluation – IMPROV	WX/RC	NAWCAD PAX	0	0		684	10/99	4,373	5,057	
Test & Evaluation - IMPROV	WX	NAWCAD PAX	0	0		684	10/99	Continued	Continued	
Test & Eval. – CONTRACT /IMPROV	PD	TBD	0	0		2,680	10/99	21,716	24,396	24,396
<b>Subtotal Test &amp; Evaluation</b>			76,983	3,743		4,048		Continued	Continued	
<u>MANAGEMENT</u>										
Management Support Services	WX/RX	NAWCAD PAX, MD	91	0	10/98	0		0	91	
TRAVEL	WX	NAWCAD PAX, MD	116	50	10/98	0		0	166	
<b>Subtotal Management</b>			207	50		0		0	257	
<b>SBIR Assessment</b>				75		0		0	75	
<b>GRAND TOTAL</b>			<b>576,604</b>	<b>9,783</b>		<b>4,048</b>		<b>Continued</b>	<b>Continued</b>	

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## EXHIBIT R-2a, FY 2000 RDT&amp;E,N PRESIDENT'S BUDGET PROJECT JUSTIFICATION SHEET

BUDGET ACTIVITY: 7

PROGRAM ELEMENT: 0204152

PROJECT NUMBER: E2321

PROGRAM ELEMENT TITLE: E-2 SQUADRONS

PROJECT TITLE: RADAR MODERNIZATION PROGRAM

(U) COST: (Dollars in Thousands)

<u>Project Number &amp; Title</u>	<u>FY 1998 Budget</u>	<u>FY 1999 Budget</u>	<u>FY 2000 Estimate</u>	<u>FY 2001 Estimate</u>	<u>FY 2002 Estimate</u>	<u>FY 2003 Estimate</u>	<u>FY 2004 Estimate</u>	<u>FY 2005 Estimate</u>	<u>To Complete</u>	<u>Total Program</u>
E2321 E-2 RADAR MODERNIZATION PROGRAM	21,318	36,839	12,084	6,397	6,846	0	0	0	0	83,484
<b>TOTAL</b>	<b>21,318</b>	<b>36,839</b>	<b>12,084</b>	<b>6,397</b>	<b>6,846</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>83,484</b>

Quantity of RDT&amp;E Articles: Not applicable.

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Radar Modernization Program (RMP) is a Non-Acquisition Advanced Technology Transition Demonstration (ATTD). It initiates the application of new radar technologies which can be common to both seabased and landbased airborne early warning platforms, E-2C and E-3, to provide a definitive littoral Theater Air Missile Defense (TAMD) capability. Focused technologies developed in association with the RMP will be cost shared by the Navy and Air Force. Funding shown in the RMP includes the Navy cost share. Key technologies to be applied are Space-Time Adaptive Processing, an electronically scanable radar antenna with multi-channel rotary coupler, a solid state radar transmitter, and high dynamic range digital receivers. The resulting detection system will specifically provide an improved overland capability for TAMD, advanced auto detect and track, a single beam cue to a shooter, Non-Cooperative Target Recognition classification technologies and continue to enhance E-2C CEC capabilities. These technologies and resultant equipment, demonstrated in ground environment in FY 1997, will also demonstrate in FY 1999, and be flight tested in FY 2001 and FY 2002 leading to an engineering change proposal (ECP) anticipated to start in 2003 for introduction into fleet aircraft.

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EXHIBIT R-2a, FY 2000 RDT&E,N PRESIDENT'S BUDGET PROJECT JUSTIFICATION SHEET

BUDGET ACTIVITY: 7

PROGRAM ELEMENT: 0204152

PROJECT NUMBER: E2321

PROGRAM ELEMENT TITLE: E-2 SQUADRONS

PROJECT TITLE: RADAR MODERNIZATION PROGRAM

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. FY 1998 ACCOMPLISHMENTS:

- (U) \$5,548k - Developed the advanced common form factor modules for TAMd.
- (U) \$9,093k - Procured off the shelf flight test instrumentation.
- (U) \$3,346k - Start the integration and checkout (IACO) of flight instrumentation package for planned FY99 ground test.
- (U) \$3,331k - Completed aircraft integration concept design.

2. FY 1999 PLAN:

- (U) \$3,122k - Risk reduction, testing and data analysis of form factor modules.
- (U) \$4,421k - Complete integration and checkout of flight instrumentation package.
- (U) \$7,403k - Conduct ground testing at Pacific Missile Range Facility (PMRF).
- (U) \$5,478k - Design aircraft installation provisions for transition of flight hardware from ground tests to flight test vehicle.
- (U) \$4,187k - Conduct final design review.
- (U) \$11,337k - Initiate modification and fabrication of hardware for installation in flight vehicle C-130.
- (U) \$891k - Portion of extramural program reserved for Small Business Innovation Research assessment in accordance with 15 USC 638.

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EXHIBIT R-2a, FY 2000 RDT&E,N PRESIDENT'S BUDGET PROJECT JUSTIFICATION SHEET

BUDGET ACTIVITY: 7

PROGRAM ELEMENT: 0204152

PROJECT NUMBER: E2321

PROGRAM ELEMENT TITLE: E-2 SQUADRONS

PROJECT TITLE: RADAR MODERNIZATION PROGRAM

3. FY 2000 PLAN:

- (U) \$4,906k - Complete modification and fabrication of hardware and installation provisions in C-130.
- (U) \$7,178k - Start the IACO of full flight test system in C-130.

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EXHIBIT R-2a, FY 2000/2001 RDT&E,N PRESIDENT'S BUDGET PROJECT JUSTIFICATION SHEET

BUDGET ACTIVITY: 7

PROGRAM ELEMENT: 0204152

PROJECT NUMBER: E2321

PROGRAM ELEMENT TITLE: E-2 SQUADRONS

PROJECT TITLE: RADAR MODERNIZATION PROGRAM

(U) B. PROGRAM CHANGE SUMMARY

	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>
(U) FY 1999 President's Budget:	24,556	37,358	20,659
(U) Appropriated Value:	25,472	37,358	
(U) Adjustments from 1999 Pres Budget:	-3,238	-519	-8,575
(U) FY 2000 OSD Budget Submit:	21,318	36,839	12,084

CHANGE SUMMARY EXPLANATION:

(U) Funding:

FY1998 decrease reflects a \$1,038k reduction for SBIR, and a \$2,200k reduction due to a BTR to assist SH-60R ALFS.

FY1999 decrease reflects an \$86k reduction due to a Revised Economic Assumption, a \$6k reduction for minor pricing adjustments, and a \$427k reduction for CAAS.

FY2000 decrease reflects a net reduction of -\$8,395k due to a rescope of RMP, as well as -\$180K for minor pricing adjustments.

(U) Schedule: Program plan adjustments for FY1998 through FY2000 reflect a restructured integrated schedule.

(U) Technical: Not applicable.

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DATE: February 1999

BUDGET ACTIVITY: 7

PROGRAM ELEMENT: 0204152

PROJECT NUMBER: E2321

PROGRAM ELEMENT TITLE: E-2 SQUADRONS

PROJECT TITLE: RADAR MODERNIZATION PROGRAM

(U) C. OTHER PROGRAM FUNDING SUMMARY: Not applicable

(U) Related RDT&E

(U) PE 0603238N (Global Surveillance Precision Strike and Advanced Technology) will fund the R&D effort to integrate existing RMP technologies at the Pacific Missile Range Facility (PMRF) for inclusion in TAMD.

(U) C. ACQUISITION STRATEGY: Not Applicable.

(U) D. SCHEDULE PROFILE: Not applicable. Non-acquisition program.

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DATE: February 1999

## EXHIBIT R-3, FY 2000 RDT&amp;E,N COST ANALYSIS

BUDGET ACTIVITY: 7

PROGRAM ELEMENT: 0204152

PROJECT NUMBER: E2321

PROJECT TITLE: RADAR MODERNIZATION PROGRAM

<u>Cost Categories:</u>	<u>Contract Method</u>	<u>Performing Activity &amp;</u>	<u>Total Prior Yrs Cost</u>	<u>FY 1999 Cost</u>	<u>FY 1999 Award Date</u>	<u>FY 2000 Cost</u>	<u>FY 2000 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
<b>PRODUCT DEVELOPMENT</b>	<b>&amp; Type</b>	<b>Location</b>								
Hardware/Software Develop.	SS/CPFF	CLASSIFIED	19,462	14,306	10/98	0		1,184	34,952	34,952
Hardware/Software Develop.	SS/CPFF	GAC, NY	0	17,942	11/98	9,684	10/99	2,559	30,185	30,185
Hardware/Software Develop.	MIPR	HANSCOMB AFB, MA	748	0		0		0	748	748
Hardware/Software Develop.	SS/CPFF	KIRKLAND AFB, TX	476	0		0		0	476	476
<b>Subtotal Product Development</b>			<b>20,686</b>	<b>32,248</b>		<b>9,684</b>		<b>3,743</b>	<b>66,361</b>	
<b>SUPPORT</b>										
Government Engineering Support	WR/WX	NAWCAD PAX, MD	332	1,465	10/98	550	10/99	1150	3,497	
Studies, Analysis, & Evaluation	CPFF	CLASSIFIED		150	10/98	165	10/99	345	660	660
<b>Subtotal Support</b>			<b>332</b>	<b>1,615</b>		<b>715</b>		<b>1,495</b>	<b>4,157</b>	
<b>TEST &amp; EVALUATION</b>										
Test & Evaluation	WX/WR	NAWCAD PAX, MD	0	1,700	10/98	1,300	10/99	7,200	10,200	
Engineering & Tech Services	CPFF	CLASSIFIED	265	300	10/98	330	10/99	690	1,585	1,585
<b>Subtotal Test &amp; Evaluation</b>			<b>265</b>	<b>2,000</b>		<b>1,630</b>		<b>7,890</b>	<b>11,785</b>	
<b>MANAGEMENT</b>										
Management Support Service	CPFF	CLASSIFIED	0	50	10/98	55		115	220	220
Travel	WX	NAWCAD PAX, MD	35	35	10/98	0		0	70	
<b>Subtotal Management</b>			<b>35</b>	<b>85</b>		<b>55</b>		<b>115</b>	<b>290</b>	
<b>SBIR Assessment</b>				<b>891</b>		<b>0</b>		<b>0</b>	<b>891</b>	
<b>Total Cost</b>			<b>21,318</b>	<b>36,839</b>		<b>12,084</b>		<b>13,243</b>	<b>83,484</b>	

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